

IL-21 PRODUCTION IN PROKARYOTIC HOSTS

The expression vectors and methods using an *E. coli* expression system for the large scale production of IL-21 are described. The vectors utilize the IL-21 coding sequence with specific changes in nucleotides in order to optimize codons and mRNA secondary structure for translation in *E. coli*. Using the expression vectors, the IL-21 gene was produced in *E. coli* to a level of greater than 1 g/L in fed batch fermentation. Also included are OmpT deficient *E. coli* strains transformed with an IL-21 expression vector.